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Mr. John Grantham
State of Washington
Department of Ecology
Nuclear & Mixed Waste Program
P. O. Box 47600
Olympia, WA 98504-7600

FLUOR DANIEL, INC.

Date: November 7, 1994

Reference: Hanford Waste Vitrification Plant
DOE Contract DE-AC06-86RL10838
Fluor Contract 8457

Transmittal No.: WDOE-988

Dear Mr. Grantham:

TRANSMITTAL

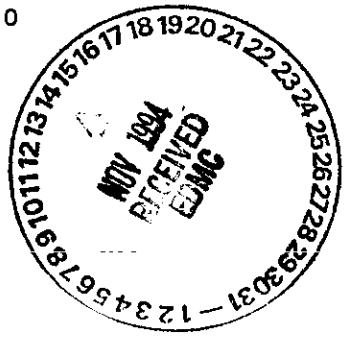
We enclosed 2 copy of the items listed below. These are issued per US-DOE request.

[ ] Approval [ ] Reference [ ] Review and Comment [X] DCN-RFC

Response due to Fluor: N/A
Responds to: A160 PACKAGE

NUMBER	REV	DATE	TITLE
DCN - 0198	0	10/26/94	REVISION OF OPERATING REQUIREMENTS FOR THE FIREWATER PUMPS PX-500-002A/B "RELEASED FOR CONSTRUCTION"

Reference: FRP-1486, FUP-901
Distribution:
R. L. Long - DOE-RL, w/0
TWP/AME Corresp Cntrl Cntr MSIN A5-10
(A160 PACKAGE), w/0
P. Felise - WHC-RL (MSIN G6-06), w/1
Environmental Data Management Center
(MSIN H6-08), w/1
D. Duncan - US EPA, Region X, w/0
M. D. Talbot, WHC - w/0



Very truly yours,

Nazy Eshraghi for
R.S. Poulter
Project Director

RSP:DGL:fps

9513536.0651

FLUOR DANIEL

US DEPARTMENT OF ENERGY
HANFORD WASTE VITRIFICATION PLANT

DESIGN CHANGE NOTICE

DCN – 0198	REV 0	PAGE 1 OF 3
DCN TITLE: Revision of operating requirements for the Firewater Pumps PX-500-002A/B		DATE INITIATED: 22 Aug 94
		PACKAGE NO.: A160

SECTION 1: DESCRIPTION OF CHANGE

This DCN revises the operating requirements for the Firewater Pumps PX-500-002A/B. Previous requirments are and remain valid. This revision is being made to accomodate the reduced horsepower rating of the pump motors at 150% of rated flow.
Please note that the requirements of NFPA 20 Paragraph 3-2 as well as 6-5.2 apply to the pump and motor. In addition to other submittal requirements Factory Acceptance Test procedures as required by Paragraph 1.6.2.5 of Specification Section B-595-C-A160-15540 shall be provided for the revised operating requirements.
Design calculations as outlined in Paragraph 1.6.2.1 of Specification Section B-595-C-A160-15540 shall be provided for review.

CAUSE OF CHANGE:

- [x] Field Change Request
- [ ] Supplier Disposition
- [ ] Deficiency Report
- [ ] Design Development
- [ ] Change Request
- [ ] TBD/Hold
- [x] Other _____

Initiating Document(s)
EDN T3-030

SECTION 2: EVALUATION

			IF "YES", ADDITIONAL REVIEW REQUIRED BY:	REVIEWER COMMENTS AND SIGNATURE/DATE
WAPA DWG/SPEC?	[x] NO	[ ] YES		
QUALITY LEVEL I DWG/SPEC?	[x] NO	[ ] YES		
SAFETY CLASS 1 OR 2 DWG/SPEC?	[x] NO	[ ] YES		
SYSTEMS ANALYSES AFFECTED?	[ ] NO	[x] YES	SYSTEMS	No Comment [signature] 9/15/94
MULTI-DISCIPLINE CHANGE?	[x] NO	[ ] YES	Fire Protection	No Comments [signature] 9-15-94

DCN Evaluated by: Systems [signature] 9/15/94 ADM [signature] Others [signature] 9/15/94

SECTION 3: APPROVED FOR CONSTRUCTION

[signature] 23AU694
Originator — Date

[signature] 9/15/94
Project/Resident Engineer — Date

SECTION 4: CONCURRENCE

[signature] 10-5-94
Project Management — Date

[signature] 10-5-94
Systems — Date

[signature] 10-6-94
Independent Safety — Date

[signature] 10-7-94
Quality Assurance — Date

[signature] 10-6-94
Configuration Management — Date

SECTION 5: RELEASED FOR CONSTRUCTION

PE STAMP REQUIRED? [x] NO [ ] YES

[signature] 10/26/94
WHC — Date

[signature] 10-18-94
UCAT — Date

[signature] 10/21/94
DOE — Date

COMMENTS:

FLUOR DANIEL

US DEPARTMENT OF ENERGY
HANFORD WASTE VITRIFICATION PLANT

DESIGN CHANGE NOTICE

DCN -0198	REV 0	DISCIPLINE Mech	PKG. NO. A160	PAGE 2

PREPARED BY: Date:

for DISCIPLINE ENGINEER: Date: 9/16/94

SECTION 6: CONSTRUCTION DOCUMENTS AFFECTED

DOCUMENT NUMBER	SHT/ PAGE	REV NO	DOCUMENT NAME	INCLD Y/N	DESCRIPTION OF CHANGE
B-595-C-A160-15540, Attachment A	DS-2	1	Firewater System Pumps	Y	Revised Operating Conditions

SECTION 7: NON-CONSTRUCTION DOCUMENTS AFFECTED

This section references affected items such as P&IDs or calculations/analyses, but they are generally not included in DCN package.

DOCUMENT NUMBER	SHT/ PAGE	REV NO	DOCUMENT NAME	DESCRIPTION OF CHANGE
H-2-123358	2	9	P&ID System 50: Fire and Process Water Storage	Revised Pump Operating Conditions

ATTACHMENT A 9513336.0053

FLUOR DANIEL

U. S. Department of Energy
Hanford Waste Vitrification Plant
Richland, Washington
DOE Contract DE-AC06-86RL10838

CENTRIFUGAL PUMPS

NO.	BY / DATE	REVISION

SHEET NO. A160 - DS - 2 | REV. 1
DATE 12-03-91 | CONTRACT 845734
TAG NO. PX-500-002A, PX-500-002B
SPECIFICATION SECT NO. 15540
FOR CLIENT USE
ORIG JJI | CHK'D CD | APPR'D

ALL ITEMS SHALL COMPLY WITH GENERAL SPECIFICATION SHEETS: A160-15540

Service: FIRE WATER PUMPS
Pump Mfr.:
Size & Type:
No. Stages:
Serial No.:

No. Motor Driven: 2
Pump Tag No.: PX-500-002 A, PX-500-002 B
FIRE WATER PUMPS
Motor Tag No.: SAME
Motor Provided By: MANUFACTURER

No. Pumps Req.: 2
No. Turbine Driven:
Pump Tag No.:
Turbine Tag No.:
Turbine Provided By:
Turbine Mounted By:

LIQUID

Name: WATER
Pumping Temperature (°F):
Normal 60 Max. 100 Min. 45
Specific Gravity: @ 60 °F = 1.00
Vapor Press. (PSIA): 0.256
Viscosity (CP): @ 60 °F = 1.129
Corrosion/Erosion Caused By: NONE
Remarks:

OPERATING CONDITIONS

Capacity (U.S. GPM):
Normal 1450 Rated 1500
Discharge Pressure (PSIG): 104
Suction Pressure (PSIG):
Max. Rated .74
Differential Pressure (PSI): 103
Differential Head (Feet): 239
NPSH Available (Feet): 32
Hydraulic Power (HP): 90.5

SITE CONDITIONS

Temp. (°F): Max. 110 Min. 60
Rel. Humid. (%): Max. 100 Min. 10
Altitude (Feet): 714
☒ Indoor ☒ Heated ○ Roof
○ Outdoor ○ Unheated ○ Sun
Area Classification:
Other:
Remarks:

DCN-0198

PERFORMANCE (To Be Completed By Manufacturer)

Proposal Curve No.:
Speed (RPM):
Efficiency (%):
Rated Power (BHP):

Minimum Continuous Flow (GPM):
Thermal Stable
Max. Head Rated Imp. (Feet):
Max. Power Rated Imp. (BHP):

NPSH Required (Feet Water):
3% Head Drop
Suction Specified Speed:

CONSTRUCTION (To Be Completed By Purchaser and Manufacturer)

NOZZLES	SIZE	RATING	FACING	LOCATION
Suction	8"	125	F. F.	
Discharge	6"	125	F. F.	

MISC. CONNECTIONS	SIZE	TYPE
Drain		
Vent	1/2"	
Pressure Gage		
Warm Up		
Balance Line		

Casing Mount: ☒ Foot ☐ Bracket
Centerline ☐ Near Cntrl. ☐ Inline
Casing Split: ☒ Axial ☐ Radial
Casing Type: ☐ Diffuser ☐ Staggered
☒ Single Volute ☐ Double Volute
Max. Allowable Pressure (PSIG):
At 60 °F
At Norm. Pump Temp.
Hydro Test Pressure (PSIG):
Lubrication Type: ☐ API 614
☒ Grease ☐ Ring Oil ☐ Oil Mist
☐ Flood ☐ Flinger ☐ Pressure
Remarks:

Impeller Diameter (Inches)
Rated Max. Min.
Impeller Type: ☐ Open ☒ Closed
Imp. Suction: ☐ Single ☒ Double
Imp. Mount: ☐ Btwn. Brgs ☒ Overhung
Rotation (Coupling End): ☐ CW ☐ CCW
Bearing (Type/Number):
Radial
Thrust
Coupling:
Manufacturer
Type/Model
Driver Half-Coupling Mounted By:
☒ Pump Mfr. ○ Driver Mfr. ○ Purchaser

Packing:
Manufacturer
Type
Size/No. Rings
Mechanical Seal:
API Class Code X
Manufacturer
Model
Mfr. Code
○ Cartridge Type Required
Gland Type/Mat'l.:
Gland Plate Taps Required for:
○ Quench ☒ Flush ○ Drain ○ Vent

○ = By Purchaser ☐ = By Mfr./ Purchaser